Claims:

1. A method of configuring a traffic network, comprising:
obtaining information about the network nodes and links;
identifying possible origin-destination pairs;
computing an optimum oblivious ratio of the network; and
configuring the network in accord with the computed oblivious ratio.

2. The method of claim 1, wherein the optimal oblivious ratio is computed by partitioning the network to 2-edge connected components and taking the maximum of the oblivious ratio over those components.

3. The method of claim 1, wherein the optimal oblivious ratio is computed using linear constraints on origin-destination pair demands.

4. The method of claim 1, wherein obtaining the optimum oblivious ratio is performed by solving a linear program.

5. The method of claim 2, wherein the linear program is based on a reduced set of input topologies, wherein the input topologies where path diversity is not possible are removed.

6. The method of claim 2, wherein the linear program is based on a reduced set of input topologies, wherein degree-one nodes are removed.

7. The method of claim 4, wherein the oblivious ratio is computed using a single LP with $O(mn^2)$ variables and $O(nm^2)$ constraints.

8. The method of claim 7, wherein the number of constraints are determined in accord with:

mm r

$f_{ij}(e)$ is a routing

$\forall$ links l: $\sum_{m}$ cap(m)π (l,m) <r))

$\forall$ links l, $\forall$ pairs i$\rightarrow$j:

$f_{ij}(l)/cap(l) - s_l^{+}(l,j) + s_l^{-}(l,j) = p_l(l,j)$

$\forall$ links l, $\forall$ nodes l, $\forall$ edges e = j$\rightarrow$k:

$\pi(l$, link-of(e)) + $p_l(i,j) - p_l(i,k) \le 0$

$\forall$ links l,m: $\pi(l,m) \le 0$

$\forall$ links l, $\forall$ nodes $i: p_l(i,i) = 0$

$\forall$ links l, $\forall$ nodes $i.j\_ \le 0$

9. A method of configuring a traffic network, comprising:
obtaining information about the network nodes and links;
identifying possible origin-destination pairs;
computing an optimum network routing; and
configuring the network in accord with the computed optimum network routing.

10. The method of claim 9, wherein the optimum network routing is computed by partitioning the network to 2-edge connected components and taking the maximum of an oblivious ratio over those components.

11. The method of claim 9, wherein the optimum network routing is computed using linear constraints on origin-destination pair demands.

12. The method of claim 9, wherein obtaining the optimum network routing is performed by solving a linear program.

13. The method of claim 12, wherein the linear program is based on a reduced set of input topologies, wherein the input topologies where path diversity is not possible are removed.

14. The method of claim 12, wherein the linear program is based on a reduced set of input topologies, wherein degree-one nodes are removed.

15. The method of claim 12, wherein the optimum network routing is computed using a single LP with $O(mn^2)$ variables and $O(nm^2)$ constraints.

16. The method of claim 15, wherein the number of constraints are determined in accord with:

mm r

$f_{ij}(e)$ is a routing

$\forall$ links l: $\sum_m$ cap(m)π (l,m) <r))

$\forall$ links l, $\forall$ pairs i→j:

$f_{ij}(l)/cap(l) - s_l^+(l,j) + s_l^-(l,j) = p_l(l,j)$

$\forall$ links l, $\forall$ nodes l, $\forall$ edges e = j→k:

$\pi(l$, link-of(e)) + $p_l(i,j) - p_l(i,k) \le 0$

$\forall$ links l,m: $\pi(l,m) \le 0$

$\forall$ links l, $\forall$ nodes $i: p_l(i,i) = 0$

$\forall$ links l, $\forall$ nodes $i.j\_ \le 0$

17. A traffic network comprised of:

a plurality of routers that support path-based routing and of a plurality of links that connect the plurality of routers, wherein each path-based routing is configured in accord with an oblivious routing configuration based on the plurality of routers and links, wherein the oblivious routing configuration is derived by identifying possible origin-destination pairs, computing an optimum network routing based on linear constraints placed on the origin-destination pair demands, and configuring the path-based routings in accord with the optimum network routing.

18. The traffic network of claim 17, wherein the linear program is based on a reduced set of input topologies, and wherein the input topologies where path diversity is not possible are removed.

19. The traffic network of claim 17, wherein the linear program is based on a reduced set of input topologies and wherein degree-one nodes are removed.

20. The traffic network of claim 17, wherein the optimum network routing is computed using a single LP with $O(mn^2)$ variables and $O(nm^2)$ constraints.

21. A traffic network, comprising:

a plurality of network nodes, each of which has configurable routing characteristics;

means for obtaining information about the network;

means for identifying possible origin-destination pairs of network nodes;

means for computing an optimum oblivious ratio of the network; and

means for configuring the network nodes in accord with the computed oblivious ratio.

22. The network of claim 21, wherein the optimal oblivious ratio is computed by partitioning the network to 2-edge connected components and taking the maximum of the oblivious ratio over those components.

23. The network of claim 21, wherein the optimal oblivious ratio is computed using linear constraints on origin-destination pair demands.

24. The network of claim 21, wherein the optimum oblivious ratio is obtained by solving a linear program.

25. A traffic network, comprising:

a plurality of network nodes, each of which has configurable routing characteristics;

obtaining information about the network nodes and routing characteristics;

means for identifying possible origin-destination pairs of nodes;

means for computing an optimum network routing; and

means for configuring the nodes in accord with the computed optimum network routing.

26. The network of claim 25, wherein said means for configuring the nodes computes the optimum network routing by solving a linear program.

27. The network of claim 25, wherein the linear program is based on a reduced set of input topologies, wherein possible input topologies where path diversity is not possible are not used.